

Superfund Program Proposed Plan

**EPA
Region 6**

Marion Pressure Treating Company Site, Marion, Union Parish, Louisiana

September 5, 2001

A. INTRODUCTION EPA ANNOUNCES PROPOSED PLAN

This Proposed Plan identifies the Preferred Alternative for cleaning up the contaminated soil and sediment at the Marion Pressure Treating Co. (MPTC) Industrial Site and provides the rationale for this preference. In addition, this Plan includes summaries of other cleanup alternatives evaluated for use at this site. This document is issued by the U.S. Environmental Protection Agency (EPA), the lead agency for site activities, and the Louisiana Department of Environmental Quality (LDEQ), the support agency. EPA, in consultation with the LDEQ, will select a final remedy for the site after reviewing and considering all information submitted during the 30-day public comment period. EPA, in consultation with the LDEQ, may modify the Preferred Alternative or select another response action presented in this Plan based on new information or public comments. Therefore, the public is encouraged to review and comment on all the alternatives presented in this Proposed Plan.

EPA is issuing this Proposed Plan as part of its public participation responsibilities under Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This Proposed Plan summarizes information that can be found in greater detail in the remedial investigation/feasibility study (RI/FS) report and other documents contained in the Administrative Record file for this site. EPA and the State encourage the public to review these documents to gain a more comprehensive understanding of the site and Superfund activities that have been conducted at the site.

B. BACKGROUND / SITE HISTORY

The MPTC site is an abandoned wood preserving facility that operated from 1964 until 1989. From the beginning of operation, creosote was used exclusively for the wood-preserving operations. Creosote contaminated process wastewater was generated during wood treatment and disposed of within an on-site, unlined surface impoundment from 1964 until 1985.

Dates to remember:

MARK YOUR CALENDAR

OPEN HOUSE - **PUBLIC MEETING**
September 4, 2001 - **September 27, 2001**

The U.S. EPA will hold an open house on Tuesday, September 4, 2001, at the Marion Town Hall, Marion, Union Parish, Louisiana, from 7:00 p.m.- 8:30 p.m. to explain the results of the sampling investigation and to discuss the proposed plan. The EPA will also hold a Public Meeting on September 27 at the same location.

PUBLIC COMMENT PERIOD:
September 5, 2001 - October 4, 2001

U.S. EPA will accept written comments on the Proposed Plan during the public comment period.

For more information, see the Administrative Record at the following locations:

Marion Town Hall 398 Main Street Marion, LA 71260 (318) 292-4715 Hours: Mon-Fri 9 a.m. to 4 p.m.	U.S. EPA Region 6 1445 Ross Avenue Dallas, Texas 75202-2733 (214)-665-6548 Hours: Mon-Fri 8:30 a.m. to 4:00 p.m.
---	--

The impoundment stopped receiving wastewater in 1985, and the facility initiated closure without the submission of a closure plan or authorization from the LDEQ. Throughout the facility's history, treated wood was distributed throughout the property for drying.

Contamination occurs in several distinct areas. These include soils around the main wood treatment process area, the consolidation area, sediments in the Big Creek, contaminated groundwater in the vicinity of the former surface impoundment, and scattered debris throughout the entire site. The wood treatment process area originally included above-ground storage tanks/pressure vessels, on-site buildings, and the impoundment.

The site layout is illustrated in Figure 1 at the end of this document.

There is no indication that pentachlorophenol (PCP), or Wolmanac, a solution of copper oxide, chromic acid, and arsenic acid (known as CCA), or other common wood-treating substances were ever used at the site; this was substantiated via personal interviews conducted previously by the LDEQ and by the lack of PCP or CCA solutions detected in site samples.

In 1995, the EPA Technical Assistance Team (TAT) conducted a Removal Site Assessment following a request by the LDEQ. This assessment, and subsequent more detailed site assessments conducted by the EPA TAT through 1995, indicated elevated levels of creosote in soil and sediment samples. During these investigations, the sample collection was limited to source waste material, surface soil, and sediment. No subsurface soil (subsurface is considered below 2 feet below ground surfaces) or surface water samples were collected during these assessments.

A time-critical removal action to provide source control was completed by EPA in 1997. During this removal action, several site structures, and tank contents, were removed from the site. Sections of surface soil contaminated with creosote near the main facility operations area were removed into a consolidation area built on-site.

In 1999, the site was proposed to the National Priorities List (NPL), and a Remedial Investigation/Feasibility Study (RI/FS) was initiated to provide for the completion of remediation at the site. The site was later added to the NPL in February 2000.

C. SITE CHARACTERISTICS

The MPTC site is located within the town corporate limits of Marion, in Union Parish, Louisiana. It is estimated that approximately 750 people live within the town. Although the area is predominately rural, residential land use in the area exists.

The site elevation is approximately 180 feet above mean sea level, and is characterized by a generally flat, gently sloping ground surface. MPTC originally occupied a 10-acre track of land. Currently, the site and areas of contamination extend over approximately 22 acres. The topography in the area of the site is generally flat, with multiple drainage ways, creeks and wetland areas. A creek designated as "Big Creek" borders the site to the east, and flows south-southeast. A second drainage route is an unnamed tributary to the west, and flows south-southeast

toward its confluence with Big Creek.

The designation "Big Creek" has been applied in the U.S. Geological Survey (USGS) map to the creek east of the site, which also identifies this as a perennial surface water body. During the RI onsite investigation, these streams were noted to be intermittent, with only isolated pools of water.

Three on-site drainage pathway areas were documented during the previous EPA site investigations. These pathways were characterized as having stained areas of soil. The pathways converge into the unnamed tributary or Big Creek. The tributary converges into Big Creek, and Big Creek flows south approximately 7.5 miles until it reaches Bayou de Loutre.

In 2000 and 2001, the EPA conducted an RI/FS. The RI/FS identified the types, quantities, and locations of contaminants and developed ways to address the contamination problems of creosote contaminated material. The RI indicated that:

- The affected media are the deep soils and sediments impregnated with Polycyclic Aromatic Hydrocarbons (PAHs), the contaminants of concern for the site. The majority of contamination was found in the consolidation area, and in the former backfilled impoundment area.
- C There is free phase, free creosote oily waste or creosote contamination in the groundwater near the area of the former impoundment.
- C There is creosote contamination in the Big Creek sediments. This stream also contains wetland areas in which contamination could present unacceptable ecological risk.
- There are debris piles (debris consists of wood, concrete slabs and metal scraps) on the property that show elevated levels of creosote related contaminants.

Contaminated Soils/Sediments- The creosote contaminated soils/sediments in Big Creek are considered to be "principal threat wastes" because the chemicals of concern are found at concentrations that pose a significant risk. According to the human health risk assessment, the excess carcinogenic risk to an individual posed by these materials is upwards of one in ten thousand (4.7×10^{-4}). In other words, if the contaminated soils/sediments at Big Creek are not remediated, as many as 4 out of every 10,000 individuals exposed to the soil could develop cancer as a result of that exposure.

Creosote contaminated soils in the Consolidation Area and the backfilled impoundment area, and soils/sediments in Big Creek are also considered to be “principal threat wastes” because they are source material leaching DNAPL into the ground water.

Other contamination that exists in surface soil/sediment within the MPTC site property is considered low-level threat waste. Although the concentrations present in some places are above the background levels, the risk levels of concern associated with the contamination are not significantly exceeded as defined by EPA’s guidance that defines “principal threat waste.”

Ground water- Ground water was sampled at approximately 10 to 20 feet below ground surface (bgs).

The ground water demonstrates capacities for meeting LDEQ’s Class 2 classification for potentially potable ground water, even though ground water is not used from this zone in the vicinity of the site. Ground water was also collected from the town domestic water supply wells south of the site and no contamination above screening levels was detected. The only exceedances of chemicals of potential concern were found in the monitoring wells installed in the shallow ground water in the vicinity of the former impoundment, and the consolidation area where most of the creosote-related contamination remains.

The unacceptable creosote-related contamination in the ground water will be removed by recovering the free phase contamination and removing source areas. The source areas are soils in the Consolidation Area, the deep soils near Big Creek (Exposure Area 8), and contaminated deep soil hot spots. To ensure that no contamination is left in place above health based levels or that will affect the ground water, the Agency will perform ground water monitoring

WHAT IS A “PRINCIPAL THREAT”?

The NCP establishes an expectation that EPA will use treatment to address the principal threats posed by a site wherever practicable (NCP Section 300.430(a)(1)(iii)(A)). The “principal threat” concept is applied to the characterization of “source materials” at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination to ground water, surface water or air, or acts as a source for direct exposure. Contaminated ground water generally is not considered to be a source material; however, Non-Aqueous Phase Liquids (NAPLs) in ground water may be viewed as source material. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained, or would present a significant risk to human health or the environment should exposure occur. The decision to treat these wastes is made on a site-specific basis through a detailed analysis of the alternatives using the nine remedy selection criteria. This analysis provides a basis for making a statutory finding that the remedy employs treatment as a principal element.

during the remediation as well as periodically after the remediation is completed.

Buildings/debris piles on-site- There are several buildings (the majority in very poor condition structurally) and debris piles scattered on the property where soils are to be removed. These structures will require demolition and removal to facilitate the surface soil excavation.

D. SCOPE AND ROLE OF THE ACTION

This action, referred to as MPTC Remedial Action, will be the final action for the site. The Remedial Action Objectives for this site are to prevent current and future exposure to contaminated media through treatment and removal of soil and sediment at the MPTC Site. This response will permanently reduce the toxicity, mobility, and volume of those source materials that constitute the principal threat wastes at the site.

E. SUMMARY OF SITE RISKS

As part of the RI/FS, EPA conducted a baseline risk assessment to determine the current and future effects of contaminants on human health and the environment. Although Union Parish has no zoning plan for the area, the area adjacent to the site is residential. According to an assessment conducted by the EPA, the most likely future uses of the property, would be as a park or for recreation. The anticipated future land uses for the Unnamed Tributary and Big Creek are recreational.

Human Health Risks

The human health risk based preliminary remediation goals (PRGs) were calculated for the Big Creek based on 1×10^{-4} carcinogenic risk using a recreational youth and adult hunter scenario (trespasser exposure factors). Since the creek is not located on residential property, access to the creek is limited; therefore, 1×10^{-4} was used as the appropriate site specific risk.

This resulting PRG is 42 mg/kg of benzo(a)pyrene equivalent, based on the medium specific screening level.

For the on-site property

Concentrations of PAHs and site-related contaminants in surface soils, on-site and on the adjoining properties were found to be below levels that would present an unacceptable risk to human health or the environment. Therefore, areas to be remediated are the Consolidation Area, the Backfilled Surface Impoundment and identified hot spots. Deeper soils will be excavated and remediated to a PRG of 26 mg/kg of benzo(a)pyrene equivalent, based on the medium specific screening level developed for an outdoor industrial worker of 1×10^{-4} carcinogenic risk. This level is also protective for the trespasser/recreational scenario which is 42 mg/kg of benzo(a)pyrene equivalent, based on 1×10^{-4} carcinogenic risk. This equates to a total of approximately 96,703 cubic yards of contaminated soil/sediment to be remediated or removed.

For the Creek

Additional contaminated areas were identified outside the facility operational boundaries on the downstream lengths of the Big Creek. Remediation of these areas is based on samples that exceed the surface soil/sediment PRG for PAHs, and deep soil samples that exceed screening values for soils that are protective of ground water. This equates to approximately 16,573 cubic yards of contaminated sediments to be remediated or removed.

Although the Creek lies in a wetland, limited wetland soils adjacent to the Creek will be remediated. It is the Agency's opinion, based on physical observations, that further remediation would cause damage to the wetland and that limited accessibility will prevent routine direct human exposure to the contaminated sediments.

The baseline risk assessment for the on-site and off-site properties focused on health effects for both children and adults, in a residential setting, that could result from current and future direct contact with contaminated soil (*e.g.*, children ingesting soil while playing in the area). The assessment also considered the health effects of an industrial on-site worker from future direct contact with contaminated soil. The health assessment for the Creek focused on the health effects for trespasser/recreational visitors in a recreational setting.

It is the lead agency's current judgment that the Preferred Alternative identified in this Proposed Plan, or one of the other active measures considered in the Proposed Plan, is necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

These risks and hazard levels indicate that there is significant potential health risk to the trespasser/adolescent from direct exposure to contaminated soil and sediment. These risk estimates are based on current reasonable maximum exposure scenarios and were developed by taking into account various conservative assumptions about the frequency and duration of an individual's exposure to the soil as well as the toxicity of benzo(a)pyrene and other Contaminants of Concern.

For the ground water

Contaminants in the first aquifer will be addressed in order to prevent contamination of the deeper aquifer that is the source of the town drinking water supply. The ground water samples which showed free phase concentrations were collected near the source areas of the backfilled impoundment and the Consolidation Area. Near Big Creek and at several hot spots, soil samples have shown soil contamination that may be a potential source of contamination to the ground water. Addressing on-site soils in these areas will reduce ground water contamination.

It is recommended that ground water monitoring take place after removal of and treatment of the source soils to determine what levels of contamination may still be present. The recommended clean-up level for any ground water site-related contaminant is the Maximum Contaminant Level (MCL) for drinking water. If no MCL is available, a remediation goal is to be calculated using equations found in the Louisiana Risk Evaluation / Corrective Action Program (RECAP) methodology

At present, quantitative risks to the ground water are only related to free phase and non-site related contaminants identified near soil background concentrations.

Ecological Risks

A baseline ecological risk assessment was conducted. The results of the baseline ecological risk assessment on the property, the Unnamed Creek and Big Creek indicated that: 1) there was minimal risk to the terrestrial and wildlife target receptors, and 2) there was only risk to benthic invertebrates in the area of contaminated soils near Big Creek exposure area #8.

Sediments in the Unnamed Tributary pose no risk to benthic invertebrates, nor to fish, amphibians, birds or mammals at the site

Soils in the operational area, or upland area, pose no risk to soil invertebrates, mammals and birds.

The chemicals of concern for the ecological risk assessment were PAHs, four metals and several other organic compounds, including organochlorine insecticides.

An evaluation of the relationship between human health and ecological risks revealed findings of unacceptable risks in similar areas, therefore, the final conclusion by the Agency is that by addressing the human health risks, the ecological risks near Big Creek exposure area #8 will be addressed also.

WHAT IS RISK AND HOW IS IT CALCULATED?

A Superfund human health risk assessment estimates the "baseline risk." This is an estimate of the likelihood of health problems occurring if no cleanup action were taken at a site. To estimate the baseline risk at a Superfund site, EPA undertakes a four-step process:

- Step 1: Analyze Contamination
- Step 2: Estimate Exposure
- Step 3: Assess Potential Health Dangers
- Step 4: Characterize Site Risk

In Step 1, EPA looks at the concentrations of contaminants found at a site as well as past scientific studies on the effects these contaminants have had on people (or animals, when human studies are unavailable). Comparisons between site-specific concentrations and concentrations reported in past studies help EPA to determine which contaminants are most likely to pose the greatest threat to human health.

In Step 2, EPA considers the different ways people might be exposed to the contaminants identified in Step 1, the concentrations people might be exposed to, and the potential frequency and duration of exposure. Using this information, EPA calculates a "reasonable maximum exposure" (RME) scenario, which portrays the highest level of human exposure that could reasonably be expected to occur.

In Step 3, EPA uses the information from Step 2 combined with information on the toxicity of each chemical to assess potential health risks. EPA considers two types of risk: cancer risk and non-cancer risk.

The likelihood of any kind of cancer resulting from a Superfund site is generally expressed as an upper bound probability; for example, a "1 in 10,000 chance." In other words, for every 10,000 people that could be exposed, one extra cancer *may* occur as a result of exposure to site contaminants. An extra cancer case means that one more person could get cancer than would normally be expected to from all other causes. For non-cancer health effects, EPA calculates a "hazard index." The key concept here is that a "threshold level" (measured usually as a hazard index of less than 1) exists below which non-cancer health effects are no longer predicted.

In Step 4, EPA determines whether site risks are great enough to cause health problems for people at or near the Superfund site. The results of the three previous steps are combined, evaluated and summarized. EPA adds up the potential risks from the individual contaminants and exposure pathways and calculates a total site risk.

F. REMEDIAL ACTION OBJECTIVES

The Remedial Action Objectives (RAOs) for the site are to:

- C Prevent ingestion/direct human contact/ inhalation of soil or sediment demonstrating chemicals of concern in excess of 10^{-4} Excess Lifetime Cancer Risk (ELCR) or Hazard Index (HI) = 1 for organics under industrial or recreational scenarios.
- C Prevent migration of chemicals of concern that would result in groundwater contamination in the Cockfield aquifer.
- C Prevent direct human contact with structures/debris demonstrating elevated levels of site-related chemicals of concern.

This proposed action will maintain the excess cancer risk associated with exposure to contaminated soil to one in ten thousand (10^{-4}) for the on-site properties and one in ten thousand (10^{-4}) for Big Creek. This will be achieved by reducing the concentrations of the soil contaminants to the following target levels:

Big Creek sediments:	
B(a)P equiv	42 ppm

Consolidation Area and Backfilled Impoundment soil:	
B(a)P equiv	26 ppm

Because there are no Federal or State cleanup standards for soil contamination, EPA established these targets, or Preliminary Remediation Goals (PRGs), based on the baseline risk assessment. Targets were selected that would reduce the risk associated with exposure to soil/sediment contaminants to an acceptable level.

Deep contaminated soils under sediments in Exposure Area 8 near Big Creek, identified hot spots at several locations noted on the Soil Sampling Grid Area, and deep soils in the Consolidation Area are also of concern. Soil samples in these areas exceeded the Louisiana Risk Evaluation / Corrective Action Program (RECAP) Regulation (Office of the Secretary (LAC 33:I)) site specific screening levels. To prevent this, soils in these areas will be excavated and treated to achieve calculated Site Specific Acceptable Values.

G. SUMMARY OF REMEDIAL ALTERNATIVES

Remedial alternatives for the Marion Pressure Treating Company Site were based on EPA's "Presumptive Remedy Guidance for Soils, Sediments, and Sludges at Wood Treater Sites." The alternatives, presented below, are numbered to correspond with the numbers in the RI/FS Report. **The Preferred alternative is S2.**

Common Elements. Many of these alternatives include common components. The soil contains hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) and is therefore subject to the RCRA land disposal restrictions (LDRs) if the waste is excavated and treated or removed from the area of contamination.

All remedies involving such activities will comply with the LDR (63 FR 28555; May 26, 1998) and will meet 90% removal efficiency or ten times the universal treatment standard for that contaminant in the material prior to land disposal in a RCRA-compliant landfill.

Several of the remedies may require institutional controls (e.g., deed restrictions such as an easement or covenant) to limit the use of portions of the property or to ensure that the water is not used for drinking water purposes.

These resource use restrictions are discussed in each alternative as appropriate. The type of restriction and enforceability will need to be determined for the selected remedy.

Ground water monitoring to ensure the effectiveness of the remedy, including deed restrictions, is a component of each alternative except the "no-action" alternative. The Agency is recommending that ground water monitoring be conducted annually for 5 years and every 5 years thereafter to ensure that contamination left in place (below 5 feet) is not impacting the Cockfield aquifer.

Consistent with expectations set out in the Superfund regulations, none of the remedies rely exclusively on institutional controls to achieve protectiveness.

NO ACTION ALTERNATIVES

Alternative S1: NO ACTION

Estimated Capital Cost: \$0

Estimated Annual O&M Cost: \$100,000

Estimated Present Worth Cost: \$100,000

Regulations governing the Superfund program generally require that the “no action” alternative be evaluated to establish a baseline for comparison.

Under this alternative, EPA would take no action at the site to prevent exposure to the soil and sediment contamination. The total cost for the “no action” alternative is \$100,000, which is based on the review of the Site conditions every 5 years over a 30-year period. No other operation and maintenance costs will be included.

SOIL/SEDIMENT ALTERNATIVES

Alternative S2: EXCAVATION AND TREATMENT OF SOIL AND SEDIMENTS USING ON-SITE THERMAL DESORPTION, WITH OFF-SITE DISPOSAL OF DEBRIS IN EITHER A RCRA SUBTITLE C OR D LANDFILL, INCLUDING DNAPL RECOVERY SYSTEM, DNAPL OFF-SITE DISPOSAL, GROUND WATER MONITORING AND INSTITUTIONAL CONTROLS TO LIMIT ACCESS TO GROUND WATER. - PREFERRED ALTERNATIVE

Estimated Capital Cost: \$ 17,039,935

Estimated O&M Cost (over 30 yr.): \$ 5,048,402

Estimated Present Worth Cost: \$ 22,088,337

Approximately 113,276 cubic yards of soil and sediment would be excavated from the site (Consolidation Area, Exposure Area 8, Big Creek Sediments and soils at selected grid locations). This amount would undergo treatment on-site via thermal desorption to address the creosote contamination. The treated soil will be conditioned and used as backfill on-site. Remaining debris (approximately 2,655 cubic yards of piles and treated wood contaminated with creosote) would be sent off-site to a RCRA facility for treatment and disposal in accordance with the RCRA LDR standards. Non-hazardous debris (approximately 2,000 cubic yards of vegetation and logging leftovers, 70 cubic yards of metal scrap, and 150 cubic yards of demolition material) from the site would also be sent off-site for disposal. Areas which were excavated would be backfilled and re-vegetated. DNAPL will be recovered and ground water monitoring would take place to ensure that the Cockfield aquifer is not impacted by residual dissolved contamination.

Since this alternative will achieve Preliminary Remediation Goals, or better, that are protective for residential land use, and which are protective for all other uses, institutional controls would only be needed to limit access to the ground water in the Cockfield Aquifer.

SUMMARY OF REMEDIAL ALTERNATIVES MARION PRESSURE TREATING COMPANY SITE		
Medium	RI/FS Designation	Description
SOIL/SEDIMENT	S1	No action
	S2	Excavation and treatment of soils and sediments; using on-site thermal desorption; with off-site disposal of debris in either a RCRA Subtitle C or D landfill; Back-fill excavated areas and re-vegetate. Including a DNAPL recovery system (if required), ground water monitoring and institutional controls to limit access to ground water. Recovered DNAPL will be disposed in an off-site RCRA facility. (Common to alternatives S2, S3 and S4).
	S3	Excavation and treatment of soils, sediments and hazardous debris; using on-site incineration; with off-site disposal of nonhazardous debris in a RCRA Subtitle D landfill; Back-fill excavated areas and re-vegetate. Including a DNAPL recovery system (if required) as described for S2.
	S4	Excavation and treatment of soil, sediment, and hazardous debris; using off-site incineration; with off-site disposal of nonhazardous debris in a RCRA Subtitle D landfill; Back-fill excavated areas and re-vegetate.; Including a DNAPL recovery system (if required) as described for S2.

Alternative S3: EXCAVATION AND TREATMENT OF SOILS, SEDIMENTS AND HAZARDOUS DEBRIS USING ON-SITE INCINERATION WITH OFF-SITE DISPOSAL OF NONHAZARDOUS DEBRIS IN A RCRA SUBTITLE D LANDFILL, INCLUDING DNAPL RECOVERY SYSTEM, DNAPL OFF-SITE DISPOSAL, GROUND WATER MONITORING AND INSTITUTIONAL CONTROLS TO LIMIT ACCESS TO GROUND WATER.

Estimated Capital Cost: \$ 68,819,363

Estimated O&M Cost (over 30 yr.): \$ 5,048,402

Estimated Present Worth Cost: \$ 73,867,765

Approximately 115,931 cubic yards of soil, sediments and hazardous debris would be excavated and undergo treatment on-site via incineration. The treated soil will be conditioned and used as backfill on-site. Non-hazardous debris (2,000 cubic yards of vegetation and logging leftovers, 70 cubic yards of metal scrap, and 150 cubic yards of demolition material) would be sent off-site for disposal. Areas which were excavated would be backfilled, regraded and re-vegetated. DNAPL will be recovered and ground water monitoring would take place to ensure that the Cockfield aquifer is not impacted by residual dissolved contamination.

Since this alternative will achieve Preliminary Remediation Goals, or better, that are protective for residential land use, and which are protective for all other uses, institutional controls would only be needed to limit access to the ground water in the Cockfield Aquifer.

Alternative S4: EXCAVATION AND TREATMENT OF SOIL, SEDIMENT, AND HAZARDOUS DEBRIS USING OFF-SITE INCINERATION WITH OFF-SITE DISPOSAL OF NONHAZARDOUS DEBRIS IN A RCRA SUBTITLE D LANDFILL, INCLUDING DNAPL RECOVERY SYSTEM, DNAPL OFF-SITE DISPOSAL, GROUND WATER MONITORING, AND INSTITUTIONAL CONTROLS TO LIMIT ACCESS TO GROUND WATER.

Estimated Capital Cost: \$ 145,995,869

Estimated O&M Cost (over 30 yr.): \$ 5,048,402

Estimated Present Worth Cost: \$ 151,044,271

This alternative is similar to Alternatives 2 and 3 except that an off-site incineration facility is considered and imported backfill would be used.

THE DNAPL RECOVERY SYSTEM

The alternatives presented share in common a DNAPL recovery system. Additional site investigations will be required during the remedial design to determine the extent of the DNAPL pools and the limits of the lower confining layer. This information is needed to select the exact remedial technology to be used and define if installation of a recovery system is required. Currently areas of observed DNAPL overlap areas of proposed excavation where DNAPL are likely to be removed with the soils.

EVALUATION CRITERIA FOR SUPERFUND REMEDIAL ALTERNATIVES
Overall Protectiveness of Human Health and the Environment determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.
Compliance with ARARs evaluates whether the alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.
Long-term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment over time.
Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.
Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.
Implementability considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.
Cost includes estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.
State/Support Agency Acceptance considers whether the State agrees with the EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan.
Community Acceptance considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

H. EVALUATION OF ALTERNATIVES

Nine criteria are used to evaluate the different remediation alternatives individually and against each other in order to select a remedy. This section of the Proposed Plan profiles the relative performance of each alternative against the nine criteria, noting how it compares to the other options under consideration. The nine evaluation criteria are discussed below. The “Detailed Analysis of Alternatives” can be found in the FS.

1. Overall Protection of Human Health and the Environment

All of the alternatives except the “no action” alternative would provide adequate protection of human health and the environment by eliminating, reducing, or controlling risk through treatment, engineering controls, and/or institutional controls. Chemicals of concern are treated to risk-based levels by Alternatives S2, S3 and S4. The alternatives provide protection by preventing direct contact exposure to contaminated soils and sediments, and prevent leakage or leachate of these contaminants to the ground water. All alternatives meet the remedial action objectives.

The ground water part of the remedy reduces the source concentrations of contaminants to levels that will be protective of ground water. Thus it is considered protective.

Because the “no action” alternative (S1) is not protective of human health and the environment, it was eliminated from consideration under the remaining eight criteria.

2. Compliance with ARARs

All soil/sediment alternatives would meet their respective ARARs from Federal and State laws. Alternatives S2, S3 and S4 would require testing of the soils to ensure that residuals meet LDR standards prior to disposal.

3. Long-term Effectiveness and Permanence

Alternatives S2, S3 and S4 would achieve long term effectiveness and permanence by eliminating potential future exposure. Inherent hazards posed by the contaminants will be reduced below health-based levels.

The ground water alternative would be effective in the long term by reducing sources of contaminant concentrations in soil and the liquid DNAPL.

Ground water monitoring is recommended annually for 5 years, and every 5 years during the 5-year review thereafter (unless a concern is noted that would require the annual monitoring to continue) to ensure site related contaminants are not migrating to the ground water aquifer.

4. Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment

Alternative S2, S3 and S4 would achieve reduction in toxicity, mobility, and volume by treating media above land disposal restrictions and disposing of soil/sediment exceeding the preliminary remediation goals.

The ground water remedy uses treatment after the recovery of the DNAPL to reduce toxicity, mobility and volume of the contaminants. These will be thermally destroyed or recycled, and managed in accordance with RCRA. After removal of the DNAPL, natural processes and Monitored Natural Attenuation are used to achieve the same goals.

5. Short-term Effectiveness

Alternatives S2 (on-site thermal desorption), S3 (on-site incineration) and Alternative S4 (off-site incineration) involve excavation of contaminated soils and thus present a potential for short-term exposure to construction workers. Alternatives S2 and S3 present short-term risk to the nearby residents and onsite workers due to the increased handling required for feed preparation and additional emissions from the onsite thermal activities to be performed. Alternative S4 would also present short-term risks to nearby residents and onsite workers with the additional activity associated with the excavation, staging, and transfer of contaminated soil/sediment to an off-site facility.

In the case of Alternatives S2 and S3, the treatment unit will be required to meet the RCRA emissions standards (i.e., RCRA Subpart X would apply to thermal desorption units and Subpart O would apply to incineration units).

The contaminants are not volatile so the risk of release is principally limited to wind blown soil transport or surface water run off. Control of dust and run-off will limit the amount of materials that may migrate.

Precautions will be taken during construction of the extraction wells to eliminate any risk to the public from excavation. Because ground water remediation will occur after completion of soil remediation, air emissions during recovery well-drilling or trench installation should not constitute a threat. Short-term risk to workers associated with normal construction hazards will be eliminated through appropriate controls and adherence to proper health and safety protocols.

6. Implementability

For Alternative S2, the technology required to excavate soil and perform thermal desorption is widely used, proven and accepted, and the equipment and labor necessary to excavate the soil and sediment are conventional and readily available.

For Alternative S3, the technology required to excavate soil and perform incineration is widely used, proven and accepted, and the equipment and labor necessary to excavate the soil and sediment are conventional and readily available.

For Alternative S4 the technology required to excavate soil and perform incineration is widely used and accepted, and the equipment and labor necessary to excavate the soil and sediment are conventional and available. Off-site commercial facilities to carry out the incineration are available.

Staging of the excavated soil may present a challenge due to limited available on-site area.

The ground water technologies are implementable without construction difficulties.

7. Cost

The estimated present worth cost of Alternative S2 is less than S3 and S4. The time frame required to achieve final cleanup levels, approximately two years, is not excessive in any particular alternative

8. State/Support Agency Acceptance

The State of Louisiana supports the Preferred Alternative without comment.

9. Community Acceptance

Community acceptance of the preferred alternative will be evaluated after the public comment period ends and will be described in the responsiveness summary of the Record of Decision for the site.

I. OTHER ALTERNATIVES

Alternatives presented were based on the presumptive remedy approach. EPA has evaluated additional alternatives such as the construction of a landfill that will meet the requirement of RCRA and Subtitle C. The review of this type of alternatives shows the following results when reviewed against the nine criteria.

Alternative S5: EXCAVATION AND ONSITE DISPOSAL

Estimated Capital Cost: \$ 11,548,576

Estimated O&M Cost (over 30 yr.): \$ 5,048,402

Estimated Present Worth Cost: \$ 16,596,978

This alternative is similar to Alternatives 2, 3 and 4 except that the approximately 118,151 cubic yards of soil sediment and debris from the site would not be treated. All excavated material (soil, sediment, and building/debris piles) would be disposed onsite in a vault designed to meet the RCRA landfill requirements. Signs would be posted around the perimeter of the area providing notice that hazardous waste is contained in the area, and a fence would be constructed to limit access. The area would be monitored (including long-term ground water monitoring) to verify that the vault retains its integrity, is not leaking, and that the institutional controls remain effective.

Similar to Alternatives 2, 3 and 4, areas which were excavated would be backfilled, regraded and re-vegetated. DNAPL will be recovered and ground water monitoring would take place to ensure that the Cockfield aquifer is not impacted by residual dissolved contamination.

Evaluation of this alternative in other wood treaters sites has yielded the following results:

1. Overall Protection of Human Health and the Environment

The alternative would provide adequate protection of human health and the environment by eliminating, reducing, or controlling risk through engineering controls, and/or institutional controls. The alternative meets the remedial action objectives.

2. Compliance with ARARs

The alternative is not required to meet LDR standards or minimum technology requirements because contamination would be consolidated on-site (preamble to the NCP, 55 FR 8758-8760, March 8, 1990).

3. Long-term Effectiveness and Permanence

The alternative would achieve long term effectiveness and permanence by eliminating potential future exposure, however, the disposal cell would require perpetual maintenance to ensure long-term effectiveness. Ground water monitoring is recommended annually for 5 years, and every 5 years during the 5-year review thereafter (unless a concern is noted that would require the annual monitoring to continue) to ensure site related contaminants left in place are not migrating to the ground water aquifer. The alternative would require long-term ground water monitoring to ensure leaking is not occurring from the on-site disposal cell.

4. Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment

The alternative would provide a reduction in mobility by placing the contaminated soil/sediment in a secure disposal cell. However, it would not result in reduction of toxicity or volume since the soil/sediment exceeding the preliminary remedial goals will not be treated prior to disposal.

5. Short-term Effectiveness

The alternative would also present short-term risks to nearby residents and onsite workers with the additional activity associated with the staging of contaminated soil/sediment and construction of the onsite disposal cell.

6. Implementability

The alternative would present the most challenges in terms of implementability. Difficulties may be encountered during construction of the onsite disposal cell depending on the conditions of the subsurface soil. Staging of the excavated soil during the construction of the disposal cell may also present a challenge due to limited available on-site area. Long term maintenance of the cell would be required for this alternative and this would not be required for Alternative S2, S3 and S4.

7. Cost

The estimated present worth cost of the alternative is less than that of Alternatives S2, S3 and S4.

8. State/Support Agency Acceptance

The State of Louisiana supports the Preferred Alternative.

9. Community Acceptance

Community acceptance of the preferred alternative will be evaluated after the public comment period ends and will be described in the responsiveness summary of the ROD for the site. During previous meetings with the community and the town officials, interest in a remedy similar to the one implemented at the Madisonville site has been suggested. The town officials has also expressed anticipated future uses of the site as a park or recreational area. A landfill cell could interfere with this future use.

J. SUMMARY OF THE PREFERRED ALTERNATIVE - (S2)

The Preferred Alternative for cleaning up the Marion Pressure Treating Company Site is S2 (excavate wastes; on-site thermal desorption; off-site stabilization and disposal of residual wastes; back-fill excavated areas and re-vegetate).

The preferred soil alternative was selected over other alternatives because it will achieve a reduction of toxicity, mobility, and volume of contaminants through treatment. The preferred alternative (S2) is on-site thermal desorption with off-site disposal. Thermal desorption will achieve a reduction in the volume, toxicity, and mobility of creosote contaminated wastes. Off-site disposal will be used for the stabilization and elimination of contaminated wastes and debris.

Thermal desorption will permanently remove the wastes that pose a risk based on exposure, leaching potential to the ground water, and risk to ecological receptors. Alternative S2, the preferred alternative will achieve permanent results and will only require monitoring or institutional controls to limit access to the ground water.

Based on the information available at this time, EPA and the State of Louisiana believe the Preferred Alternative would be protective of human health and the environment, would comply with ARARs, and would be cost-effective. The Preferred Alternative can change in response to public comment or new information.

COMMUNITY PARTICIPATION

EPA and LDEQ provide information regarding the cleanup of the MPTC Site to the public through public meetings, the Administrative Record file for the site, and announcements published in the Newspaper. EPA and the State encourage the public to gain a more comprehensive understanding of the site and the Superfund activities that have been conducted at the site.

The dates for the public comment period, the date, location, and time of the public meeting, and the locations of the Administrative Record files, are provided on the front page of this Proposed Plan.

For further information on the MPTC Site, please contact:

Bartolome J. Cañellas.
Remedial Project
Manager
(214) 665-6662

U.S. EPA- Region 6
1445 Ross Avenue
Dallas, TX 75202-2733

Toll free phone number 1-800-533-3508

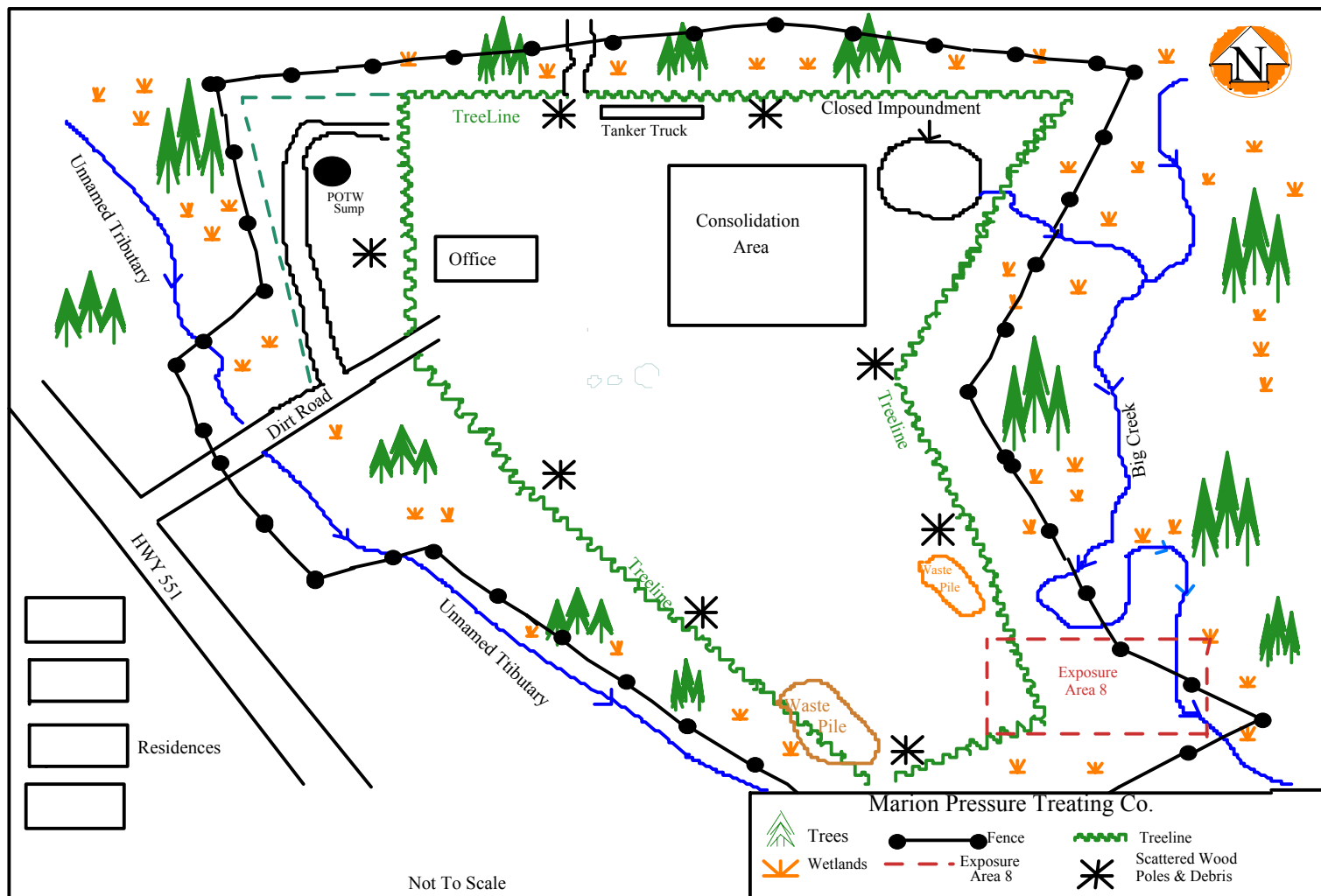


FIGURE 1

GLOSSARY OF TERMS

Administrative Record (AR)- A file that contains all relevant information used by EPA to make its decision on the selection of a remedial or removal action under the Superfund program. The file is available for public review and a copy is located at or near the site and at the EPA Regional Office.

Applicable or Relevant and Appropriate Requirements (ARARs) - the Federal and State environmental laws that a selected remedy will meet. These requirements may vary among sites and alternatives.

Carcinogen- A cancer-causing substance or agent.

Contaminants of Concern- The contaminants at the site that are considered the most abundant and/or the most toxic chemical. When contaminants of concern are targeted for clean-up, other chemicals that may be present as well will be removed also.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. Section 9601, et. seq., - This law authorizes the Federal Government or responsible parties to respond directly to releases (or threatened releases) of hazardous substances that may be a danger to public health, welfare, or the environment. U.S. EPA is responsible for managing CERCLA.

Dense Non-Aqueous-Phase Liquid (DNAPL). Immiscible liquids more dense than water and tend to sink to great depths.

Excess Lifetime Cancer Risk (ELCR)- The additional or extra risk of developing cancer due to exposure to hazardous substances, pollutants, or contaminants incurred over the lifetime of an individual.

Ground water - underground water that fills pores in soils or openings in rocks to the point of saturation. Ground water is often used as a source of drinking water via municipal or domestic wells.

Incineration- The process by which solid, liquid, or gaseous combustible wastes are burned and changed into gaseous by-products and residue (referred to as ash).

Hazard Index (HI)- A numerical indicator of the potential impacts from exposure to non-cancer causing chemicals. A hazard index greater than 1.0 may warrant concern for non-cancer effects due to exposure.

Land Disposal Restriction (LDR) - The land disposal restrictions program requires certain wastes to be treated before they may be disposed of in the land.

Maximum Contaminant Level (MCLs)- The maximum permissible level of a contaminant in water to any user of a public water system. MCLs are enforceable standards under the Federal Safe Drinking Water Act, 42 U.S.C. 300 (f) et.seq.

Monitoring -ongoing collection of information about the environment that helps gauge the effectiveness of a clean-up action. Monitoring wells drilled at different levels at the MPTC Site would be used to detect any leaks from containment structures.

National Contingency Plan (NCP)- 40 C.F.R. Part 300, Regulations promulgated by EPA to respond to releases or threatened releases of hazardous substances, pollutants, or contaminants.

Organic compounds - carbon compounds, such as solvents, oils, and pesticides. Most are not readily dissolved in water. Some organic compounds can cause cancer.

Preliminary Remediation Goals- Are initial clean-up goals that 1) are protective of human health and the environment, and 2) comply with Applicable or Relevant and Appropriate Requirements (ARARs).

Present Worth Analysis - a method of evaluation of expenditures that occur over different time periods. By discounting all costs to a common base year, the costs for different remedial action alternatives can be compared on the basis of a single figure for each alternative. When calculating present worth cost for Superfund sites, total operations & maintenance costs are to be included.

Remedial Investigation/Feasibility Study (RI/FS)- An in-dept study designed to gather data necessary to determine the nature and extent of contamination at a Superfund site and establish criteria for cleaning up the site.

Resource Conservation and Recovery Act (RCRA) - the Federal act that established a regulatory system to track hazardous wastes from the time they are generated to their final disposal. RCRA also provides for safe hazardous waste management practices and imposes standards for transporting, treating, storing, and disposing of hazardous waste.

Revegetate - to replace topsoil, seed, and mulch on prepared soil to prevent wind and water erosion.

Risk Assessment - The qualitative and quantitative evaluation performed in an effort to define the risk posed to human health and/or the environment by the presence or potential presence and/or use of specific pollutants.

Thermal Desorption- The process in which high temperatures are used to change the chemical, physical, or biological character or composition of a waste.

Treatability Variance - where a remedial alternative cannot achieve a LDR treatment standard, treatability variance may be granted. A treatability variance establishes alternate treatment standards.

USE THIS SPACE TO WRITE YOUR COMMENTS

Your input on the Proposed Plan for the Marion Pressure Treating Company Site is important to EPA. Comments provided by the public are valuable in helping EPA select a final cleanup remedy for the site.

You may use the space below to write your comments, then fold and mail. Comments must be postmarked by October 4, 2001. If you have any questions about the comment period, please contact Bartolome J. Cañellas (214) 665-6662 or through EPA's toll-free number at 1-800-533-3508. Those with electronic communications capabilities may submit their comments to EPA via Internet at the following e-mail address: canellas.bart@epa.gov

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Name _____

Address

City _____

State _____ **Zip** _____